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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------------------|-------------|----------------------|---------------------|------------------|
| 10/807,534 | 03/23/2004 | Yoshihiro Kobayashi | 9319S-000744 | 3768 |
| 27572 | 7590 | 08/18/2006 | EXAMINER | |
| HARNESS, DICKEY & PIERCE, P.L.C. | | | KAYES, SEAN PHILLIP | |
| P.O. BOX 828 | | | ART UNIT | PAPER NUMBER |
| BLOOMFIELD HILLS, MI 48303 | | | 2841 | |

DATE MAILED: 08/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------------|--|
| Office Action Summary | Application No. 10/807,534 | Applicant(s) KOBAYASHI, YOSHIHIRO | |
| | Examiner Sean Kayes | Art Unit 2841 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 13-15 is/are pending in the application.
- 4a) Of the above claim(s) 3-10, 13 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Larue (US 5705399.)

3. With respect to claim 1 Larue discloses a measurement method for detecting mass based on a change in vibration frequency of a piezoelectric vibration reed for mass measurement, the measurement method comprising: supplying an excitation signal from an excitation circuit (figure 3) including a voltage controlled oscillator to excite the piezoelectric vibration reed (2 figure 2); calculating a phase difference between an output signal of the piezoelectric vibration reed and the excitation signal (signal comparison figure 3); adjusting the excitation signal to have a frequency corresponding to the output signal of the piezoelectric vibration reed in response to the calculated phase difference (The crystal detector oscillator 2 of Larue is oscillated by an oscillator circuit that outputs an output signal f2 in Fig. 3 representative of the resonant frequency of the detector (column 13, lines 1-3). The output signal f2 is combined with a reference signal f1 to provide an output signal (Δf) that also indicates the resonant frequency of the detector. The output signal (Δf) is input into a conventional means that may be a frequency/voltage converter (column 13, line 7) to yield an output signal S

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representative of the oscillation frequency of the crystal detector oscillator.); and calculating the vibration frequency of the piezoelectric vibration reed (lines 1-5 of abstract.)

4. With respect to claims 2 and 14 Larue discloses a circuit for exciting a piezoelectric vibration reed for mass measurement, comprising: a voltage controlled oscillator for supplying an excitation signal to the piezoelectric vibration reed for mass measurement ("oscillators" figure 3); a phase detection unit for calculating a phase difference between the excitation signal from the voltage controlled oscillator and an output signal from the piezoelectric vibration reed ("signal comparison" and Δf figure 3); a control voltage output unit for supplying a voltage corresponding to the phase difference calculated by the phase detection unit to the voltage controlled oscillator, wherein the voltage controlled oscillator adjusts the excitation signal to have a frequency corresponding to the output signal of the piezoelectric vibration reed. (The crystal detector oscillator 2 of Larue is oscillated by an oscillator circuit that outputs an output signal f_2 in Fig. 3 representative of the resonant frequency of the detector (column 13, lines 1-3). The output signal f_2 is combined with a reference signal f_1 to provide an output signal (Δf) that also indicates the resonant frequency of the detector. The output signal (Δf) is input into a conventional means that may be a frequency/voltage converter (column 13, line 7) to yield an output signal S representative of the oscillation frequency of the crystal detector oscillator.)

Response to Arguments

5. Applicant's arguments with respect to claim 1, 2, and 14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kobayashi (US 20050081635) is copending application of applicant's that discloses similar matter.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

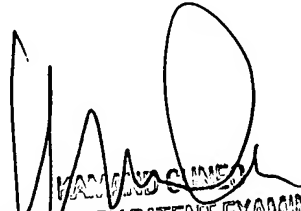
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Kayes whose telephone number is (571) 272-8931. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on (571) 272-1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SK
7/26/2006


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SUPERVISORY PATENT EXAMINER
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